

Application/Control No.

10/687,158

Examiner

Saeed T. Chaudhry

Applicant(s)/Patent under Reexamination

KOBA ET AL.

Art Unit

1746

| √  | Rejected |
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| 11 | Allowed  |

(Through numeral) Cancelled Restricted

Non-Elected Ν Interference

Appeal o Objected

| Cl              | aim                              | Ι        | Date     |     |        |        |        |          |              |          |  |
|-----------------|----------------------------------|----------|----------|-----|--------|--------|--------|----------|--------------|----------|--|
| <del>⊢</del> ∵" |                                  | $\vdash$ | П        | Т   | $\top$ | Ť      | Ť      | Т        | $\top$       | T        |  |
| Final           | Original                         | 11/15/06 |          |     |        |        |        |          |              |          |  |
|                 | 1                                | V        |          |     |        | İ      |        | 1        |              |          |  |
|                 | 2                                | í        | Т        | T   |        |        |        |          |              |          |  |
|                 | 3                                |          |          | T   | T      | Т      | Т      | T        | T            | Т        |  |
|                 | 4                                | I        |          | T   | T      | T      | T      | İ        | T            | 1        |  |
|                 | 5                                | 1        | $\vdash$ | ✝   | T      | T      | 1      | 1        | T            |          |  |
|                 | 1<br>2<br>3<br>4<br>5<br>6       | Ħ        | T        | 1   | Т      | $\top$ | 1      | <b>T</b> | <del> </del> | 1        |  |
|                 | 7                                | IT       | 1        | 1   | 1      | ✝      | 1      | T        | Τ-           | Г        |  |
|                 | 8                                | П        |          |     | T      |        | $\top$ |          | 1            |          |  |
|                 | 9                                | $\Pi$    |          | Τ   | T      | 1      | 1      | $\top$   |              | $\vdash$ |  |
|                 | 10                               | П        |          |     |        | T      | 1      | Т        | Т            | Τ        |  |
|                 | 11                               | П        |          |     | T      |        |        |          |              |          |  |
|                 | 12                               | П        |          |     |        |        | Т      | Τ        |              | Г        |  |
|                 | 13                               | П        |          | 1 - | 1      | 1      | 1      |          | T            | Π        |  |
|                 | 10<br>11<br>12<br>13<br>14<br>15 | ✓        |          |     | 1      |        | 1      |          |              |          |  |
|                 | 15                               | √<br>N   |          |     | 1      |        |        | Т        | Г            |          |  |
|                 | 16<br>17<br>18<br>19<br>20       | N        |          | İ   | Т      | 1      | 1      | T        | Т            | 1        |  |
|                 | 17                               | N        |          |     |        |        | 1      | T        |              | Т        |  |
|                 | 18                               | N        |          |     |        |        | T      | Т        |              |          |  |
|                 | 19                               |          | Г        | Т   | $\top$ | 1      |        |          | 1            | T        |  |
|                 | 20                               |          |          | T   |        |        |        | ļ        | Т            | Т        |  |
|                 | 21                               | Г        |          | 1   |        |        | l      |          | 1            | 1        |  |
|                 | 22                               |          |          |     | t      |        | T      |          |              |          |  |
|                 | 22                               |          |          | 1   |        |        | T      |          |              | İ        |  |
|                 | 24                               |          |          |     | Г      |        |        | T        | l            |          |  |
|                 | 25                               |          |          |     |        |        |        |          |              |          |  |
|                 | 26                               |          |          |     |        |        | Ī      |          |              |          |  |
|                 | 25<br>26<br>27                   |          |          |     |        |        |        |          |              |          |  |
|                 | 28<br>29                         |          |          |     |        |        |        |          |              |          |  |
|                 | 29                               |          |          |     |        |        |        |          |              |          |  |
|                 | 30                               |          |          |     |        |        |        |          |              |          |  |
|                 | 31                               |          |          |     |        |        |        |          |              |          |  |
|                 | 32                               |          |          | Γ   | Γ      | Г      | Г      | Г        | П            | М        |  |
|                 | 33                               |          |          |     |        |        |        | П        |              | П        |  |
|                 | 33<br>34                         |          |          |     |        |        |        |          |              | П        |  |
|                 | 35                               |          |          |     |        |        |        |          |              |          |  |
|                 | 36<br>37                         |          |          |     |        |        |        |          |              |          |  |
|                 | 37                               |          |          |     |        |        |        |          |              |          |  |
|                 | 38                               |          |          |     |        |        |        |          | Γ            | $\Box$   |  |
|                 | 39                               |          |          |     |        |        | L      |          |              |          |  |
|                 | 40                               |          |          |     |        |        |        |          |              |          |  |
|                 | 41                               |          |          |     |        |        |        |          |              |          |  |
|                 | 42                               |          |          |     |        |        |        |          |              |          |  |
|                 | 43                               |          |          |     |        |        |        |          |              |          |  |
|                 | 44                               |          |          |     | L_     |        |        |          |              |          |  |
|                 | 45                               |          |          |     | Ĺ      |        |        |          |              |          |  |
|                 | 46                               |          |          |     |        |        |        |          |              |          |  |
|                 | 47                               |          |          |     |        |        |        |          |              |          |  |
|                 | 48                               |          |          |     |        |        |        |          |              |          |  |
|                 | 49                               |          |          |     |        |        |        |          |              |          |  |
|                 | 50                               |          |          |     |        |        |        |          |              |          |  |

| Cla   | Date           |  |              |              |              |              |  |          |          |                 |
|-------|----------------|--|--------------|--------------|--------------|--------------|--|----------|----------|-----------------|
| Final | Original       |  |              |              |              |              |  |          |          |                 |
|       | 51<br>52<br>53 |  |              |              |              |              | Τ  | T        |          | -               |
|       | 52             |  |              | Τ            |              |              |  | Т        |          |                 |
|       | 53             |  | Г            | Т            | Т            | П            |  |          |          | Π               |
|       | 54<br>55       |  |              |              |              | Τ            |  |          |          | Π               |
|       | 55             |  |              |              |              |              |  |          |          |                 |
|       | 56             |  |              |              | Ľ            | L            |  |          |          |                 |
|       | 57             | <u>.                                    </u> |              | _            | L            | <u> </u>     | L  |          | <u> </u> |                 |
|       | _58            |  |              | _            | <u> </u>     | _            |  | ┖        | _        | _               |
|       | 59             |  | _            | _            | _            | ┖            | ╙  | ╙        | ╙        | <u> </u>        |
|       | 60             |  | <u> </u>     | _            | ļ            | 丄            | <u>Ļ</u>   | ╙        | <u> </u> | <u> </u>        |
|       | 61             | _  | _            | ļ.,          | ļ            | <u> </u>     | <u> </u>   | _        | ļ.,      |                 |
|       | 62             |  | L            | 1            | _            | <u> </u>     | ↓_   | <b> </b> | ļ        | <u> </u>        |
|       | 63             | <u> </u>                                     | ┡            | 1            | -            |              | ┞  |          | 1        |                 |
|       | 64             | _  | _            | $\vdash$     | ╄            | -            | -  | ļ        | <u> </u> | <u> </u>        |
|       | 65             | <u> </u>                                     | <del> </del> | ┼            | -            | ╀            | -  | <u> </u> |          | -               |
| -     | 66<br>67       | $\vdash$                                     | ⊢            | ╀            | ┾            | ⊢            | ├  |          | ⊢        | ├               |
|       | 60             |  | -            | ╀            | ╀            | ⊢            | -  | ╀        | -        | -               |
|       | 68<br>69       | -  | -            | ┼            | ╁            | ╁            | ⊢  | ⊢        | ⊢        | -               |
|       | 70             |  | -            | ⊢            | ├-           | ╁            | ╀  | ├        | ├        | ┢               |
| _     | 71             |  |              | ╁╌           | ╀┈           | ⊢            | ┼─   | ┼─       | ╁        | ┢               |
|       | 72             |  |              | ╁╌           | ╁            | ┢            | ┢  | ╁─       | $\vdash$ | $\vdash$        |
|       | 71<br>72<br>73 | -  |              |              | ╁            | ╁╌           | -  | ├        | -        | ┢┈              |
|       | 74             | -  | <del> </del> |              | ╁            | +-           | +-   | ┢┈       | ╁        | $\vdash$        |
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|       | 76             |  | -            |              | <del> </del> | 1            | †  –   |          | 一        |                 |
|       | 77             |  |              | 1            | -            | <b>†</b>     | <del>                                     </del> | H        | İ        |                 |
|       | 78             |  | -            | ⇈            | 1            |              |  | T        |          |                 |
|       | 79             |  |              | T            |              | T            |  |          |          |                 |
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|       | 81             |  |              |              |              | Τ            | Т  |          |          |                 |
|       | 82             |  |              |              |              |              |  |          |          |                 |
|       | 83             |  |              | Ĺ            |              |              |  |          |          |                 |
|       | 84             |  |              |              |              |              |  |          |          |                 |
|       | 85             |  |              |              |              |              |  |          |          |                 |
|       | 86             |  |              |              |              | $\Box$       |  |          |          |                 |
|       | 87             |  | ٠            |              |              |              |  |          | Ŀ        |                 |
|       | 88             |  |              | _            |              |              |  |          |          |                 |
|       | 89             |  |              | _            | L            | _            |  |          | _        |                 |
|       | 90             |  |              | _            | _            |              |  | _        | L.       |                 |
|       | 91             |  |              |              | <u> </u>     | <u> </u>     | _  | <u> </u> |          |                 |
|       | 92             |  |              | $\vdash$     | $\vdash$     | <del> </del> |  | <u> </u> | <b> </b> | Ш               |
|       | 93             |  |              |              | <del> </del> | _            | <u> </u>   | _        | $\vdash$ | $\vdash \vdash$ |
|       | 94             |  | _            | <del> </del> | <u> </u>     | -            | <u> </u>   | <u> </u> | <b>-</b> |                 |
|       | 95<br>96       |  |              | -            | ├            | $\vdash$     | <del> </del>                                     | <u> </u> |          | Н               |
|       | 97             | -  |              | ├            | -            | $\vdash$     | _  | $\vdash$ | $\vdash$ | $\vdash \dashv$ |
|       | 98             |  | _            | -            | <u> </u>     | $\vdash$     |  | -        | -        | $\dashv$        |
|       | 99             | $\dashv$                                     | -            | -            | $\vdash$     | $\vdash$     |  | -        |          | $\dashv$        |
|       | 100            |  |              | -            | -            | $\vdash$     | -  | _        | -        | $\dashv$        |
|       | 1001           | - 1  |              |              |              |              |  |          |          |                 |

| EUL         EUD           101         102           103         104           105         106           107         108           109         110           111         112           113         114           115         116           117         118           119         120           121         122           123         124           125         126           127         128           129         130           131         132           133         134           135         136           137         138           139         140           141         142           143         144           144         145           146         147           148         149 | CI            | Ī   | Date   |              |              |                                       |  |                |  |          |                 |  |  |
|---|---------------|-----|--|--------------|--------------|---------------------------------------|--|----------------|--|----------|-----------------|--|--|
| 101       102         103       104         105       106         107       108         109       110         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   |               | 1   | Т  | T            | Т            | T                                     | Ť  | Т              | Т  | T        |                 |  |  |
| 101       102         103       104         105       106         107       108         109       110         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   | <u></u>       | ina | 1  |              |              |                                       | 1  |                |  |          |                 |  |  |
| 101       102         103       104         105       106         107       108         109       110         111       112         113       114         115       116         117       118         119       120         121       122         123       124         125       126         127       128         129       130         131       132         133       134         135       136         137       138         139       140         141       142         143       144         145       146         147       148         149       149   | 뜐             | rig |  |              |              | 1                                     |  | 1              |  |          | 1               |  |  |
| 103   | 1             | 1   | 1  | 1            |              |                                       |  | 1              | 1  |          | 1               |  |  |
| 103   |               | 101 | T  | Τ            | T            | T                                     |  | Τ              | $\top$   | T        |                 |  |  |
| 103   |               | 102 |  |              |              | İ                                     |  |                | 1  | 1        |                 |  |  |
| 105   |               | 103 | Г  | Г            |              | 1                                     | Π  | П              | Τ  | T        |                 |  |  |
| 105   |               | 104 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 107   |               | 105 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 108   |               | 106 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 109 110 111 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149   | <u> </u>      | 107 | _  | _            | <u> </u>     | <u> </u>                              |  |                | <u> </u>   | ┖        | L               |  |  |
| 112         113         114         115         116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149   |               | 108 | <u> </u>   | <u> </u>     | <u> </u>     | <u> </u>                              | <u> </u>   | <u> </u>       |  | _        |                 |  |  |
| 112         113         114         115         116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149   |               | 109 | ļ  | ╙            | <u> </u>     | ـــــــــــــــــــــــــــــــــــــ | ↓  | <u> </u>       | _  | <u> </u> | <u> </u>        |  |  |
| 112         113         114         115         116         117         118         119         120         121         122         123         124         125         126         127         128         129         130         131         132         133         134         135         136         137         138         139         140         141         142         143         144         145         146         147         148         149   |               | 110 | <b>!</b>   | <u> </u>     | -            | <del> </del>                          | ــــــ   | <del> </del> _ | ╄  | ┦_       | <u> </u>        |  |  |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |               | 111 | <del> </del>                                     | ┞            | ـ            |                                       | ┞-   | _              | -  | ┞        | $\vdash$        |  |  |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   | <u> </u>      | 112 | ┡  | ┡            | ┡            | 1                                     | _  | ├-             | <b>.</b>   | ļ        |                 |  |  |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |               | 113 | <del> </del>                                     | $\vdash$     | -            | 1                                     | $\vdash$   | $\vdash$       | $\vdash$   | +        | -               |  |  |
| 116       117         118       119         120       121         122       123         124       125         126       127         128       129         130       131         132       133         134       135         136       137         138       139         140       141         143       144         145       146         149       149   |               | 114 | ┝  | ┢            | ┢            | -                                     | ⊢  | ┢              | -  | ├        | <u> </u>        |  |  |
| 120<br>121<br>122<br>123<br>124<br>125<br>126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  | -             | 115 | $\vdash$   | -            | -            | ╂                                     | -  | ├-             | ┼  | -        | $\vdash$        |  |  |
| 120<br>121<br>122<br>123<br>124<br>125<br>126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  | -             | 110 |  | $\vdash$     | 1-           | +-                                    | ├  | ├              | -  | ┼        | -               |  |  |
| 120<br>121<br>122<br>123<br>124<br>125<br>126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  | <u> </u>      | 117 | -  | ├-           | ⊢            | -                                     | ├  | -              | $\vdash$   | $\vdash$ | H               |  |  |
| 120<br>121<br>122<br>123<br>124<br>125<br>126<br>127<br>128<br>129<br>130<br>131<br>132<br>133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |               | 110 | ├  | ₩            | $\vdash$     | $\vdash$                              | $\vdash$   | $\vdash$       | $\vdash$   | ├        | $\vdash$        |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 120 | $\vdash$   | ⊢            | +            | ╫                                     | -  | ╁              | $\vdash$   | $\vdash$ |                 |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 121 | -  | -            | $\vdash$     | $\vdash$                              | ┼  | <del> </del>   | $\vdash$   | ┢        | -               |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 122 | -  | -            | $\vdash$     | -                                     | <del> </del>                                     | $\vdash$       | $\vdash$   | $\vdash$ | -               |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 123 |  | H            | H            | <del> </del>                          | <del>                                     </del> | $\vdash$       | <del>                                     </del> | $\vdash$ | $\vdash$        |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 124 | <del>                                     </del> | $\vdash$     | $t^-$        | 1                                     | ╁  | $\vdash$       | $\vdash$   | $\vdash$ | $\vdash$        |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 125 |  | $\vdash$     | Т            | T                                     | <del>                                     </del> | -              | T  | $\vdash$ | $\vdash$        |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 126 |  |              |              | -                                     |  | $\vdash$       |  | t        | П               |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 127 | Г  |              | П            |                                       |  |                | t  | İ        | П               |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 128 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 129 |  |              |              |                                       | $\Box$   |                |  |          |                 |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 130 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 131 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 133<br>134<br>135<br>136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 132 |  |              |              |                                       |  |                |  |          |                 |  |  |
| 136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148   |               | 133 |  | L.           |              |                                       |  |                |  | Ĺ        |                 |  |  |
| 136<br>137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148   |               | 134 | <u> </u>   |              | L.           |                                       | _  |                |  |          | Ш               |  |  |
| 137<br>138<br>139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148  |               | 135 | L  | <u>L</u> .   | <u> </u>     | <u> </u>                              |  | $\vdash$       | <u> </u>   | <u> </u> | Щ               |  |  |
| 139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 136 | L_   | <u> </u>     | <u> </u>     | <u> </u>                              | <u> </u>   | L.             | <u> </u>   | <u> </u> | Щ               |  |  |
| 139<br>140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149   |               | 137 |  | <u> </u>     | $\vdash$     | _                                     | $\vdash$   |                | <del> </del>                                     | _        | $\sqcup$        |  |  |
| 140<br>141<br>142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |               | 138 | _  |              | <u> </u>     | _                                     | H  |                | <del> </del>                                     | -        | $\vdash \vdash$ |  |  |
| 141   | $\vdash$      | 139 | _  | _            | <u> </u>     | ⊢                                     | H  | ļ              |  | <u> </u> | $\vdash$        |  |  |
| 142<br>143<br>144<br>145<br>146<br>147<br>148<br>149  |               |     | -  |              | -            | <del> </del>                          | $\vdash$   | $\vdash$       | ├—   | $\vdash$ | $\vdash \vdash$ |  |  |
| 143<br>144<br>145<br>146<br>147<br>148<br>149   |               |     |  | <del> </del> | <del> </del> | <del> </del>                          | $\vdash$   | <u> </u>       |  | <u></u>  | Н               |  |  |
| 144   |               |     | -  | _            | $\vdash$     | $\vdash$                              | Н  | <del>-</del>   | ├  | $\vdash$ | H               |  |  |
| 145   | <del>  </del> |     | —  |              | $\vdash$     |                                       | $\vdash$   | -              |  | $\vdash$ | $\vdash$        |  |  |
| 146   |               |     |  |              | $\vdash$     | H                                     |  |                | -  | -        | $\vdash \vdash$ |  |  |
| 147<br>148<br>149   |               |     |  | _            | $\vdash$     | -                                     | $\vdash$   | -              | $\vdash$   | $\vdash$ | Н               |  |  |
| 148   |               |     | -  |              | —            | <del> </del>                          | $\vdash \vdash$                                  |                | $\vdash$   | $\vdash$ | Н               |  |  |
| 149   | -             |     |  | _            |              | $\vdash$                              | Н  |                | $\vdash$   | -        | Н               |  |  |
|   |               | 149 |  |              |              | <u> </u>                              | Н  | _              | -  | _        | Н               |  |  |
|   |               | 150 |  |              |              | Ħ                                     |  |                |  |          | Н               |  |  |